Claims

WHAT IS CLAIMED IS:

1.   A computer for dynamically mirroring a data storage configuration comprising:

a data interface coupled to a data storage medium through which information relating to a

first storage configuration of the first data storage medium is communicated;

a software agent embodied on a computer readable medium for comparing the

first storage configuration to a second storage configuration, and at least when a storage

configuration parameter differs between the first and the second storage configurations,

for one of automatically conforming the first storage configuration to mirror the second

storage configuration and automatically outputting a change to be made to conform the

second storage configuration to mirror the first storage configuration;

a communications interface through which one of the second storage

configuration is received and the change to be made is transmitted; and

a data processor for executing the software agent.

2.   The computer of claim 1 wherein the storage configuration parameter is selected

from the group: a database layout; a logical unit number (LUN) type; a LUN size; a

measure of LUN performance; and a measure of LUN reliability.

3.   The computer of claim 1 wherein the software agent is configured to one of

output the first storage configuration to and receive the second storage configuration from

a second software agent through the communications interface.

4.   The computer of claim 1 wherein conforming the first storage configuration to mirror the second storage configuration comprises creating a secondary LUN based on at least one of a LUN type and a LUN size received through the communications interface when a primary LUN of the data storage medium is unsuitable.

5.   The computer of claim 1 wherein the software agent receives the first storage configuration from a relational database management computer program.

6.   A computer program for dynamically mirroring a local assemblage of data comprising:

a remote software agent embodied on a computer readable storage medium and configured to couple to at least one remote storage server and to a local software agent, wherein the remote software agent comprises computer instructions for:

receiving a local storage server configuration including a local storage parameter from the local software agent;

determining a remote storage parameter corresponding to the local storage parameter from the at least one remote storage server; and

configuring the remote storage server in accordance with the received storage parameter to mirror the local storage server configuration.

7.   The computer program of claim 6 wherein the remote software agent further comprises computer instructions for comparing the received local storage parameter to the determined remote storage parameter.

8.   The computer program of claim 6 wherein the storage parameter is at least one of a database layout, a logical unit number (LUN) type, a LUN size, a measure of LUN performance, and a measure of LUN reliability.

9.   The computer program of claim 6 wherein the remote software agent further comprises computer instructions for communicating a message that the remote storage server conforms to the local storage server.

10.   The computer program of claim 6 wherein the remote software agent further comprises computer instructions for creating a secondary remote mirror LUN, based on at least one of LUN type and LUN size received from the local software agent, when a primary remote mirror LUN is not suitable.

11.   The computer program of claim 6 wherein the remote software agent operates in cooperation with the at least one remote storage server using a relational database management system.

12.   The computer program of claim 6 further comprising the local software agent embodied on a computer readable storage medium and configured to couple to at least one local storage server and to the remote software agent.

13.   The computer program of claim 12 wherein the local software agent comprises computer instructions for:

 polling a configuration of the local storage server;

 determining the local storage parameter of the local storage server; and

 communicating the local storage server configuration including the local storage parameter to the remote software agent.

14.   The computer program of claim 13 wherein the computer instructions for communicating the local storage parameter to the remote software agent comprise instructions to initiate said communicating when the local software agent detects a change in a local storage server configuration.

15.   The computer program of claim 14 wherein the change in the local storage server configuration is at least one of a new volume added, an existing volume removed, a change in volume, and a failure of a remote mirror link between the local storage server and the remote storage server.

16. The computer program of claim 12 wherein the local software agent operates in cooperation with the at least one local storage server using a relational database management system.

17. A method of facilitating self-configuring of a remote mirroring system comprising:

discovering a primary storage configuration and database layout;

mapping said primary storage configuration and database layout creating at least one primary storage subsystem volume;

receiving information concerning a remote storage subsystem;

polling said primary storage subsystem volume and a relational database management system (RDBMS);

comparing current information from said primary storage subsystem volume to the received information; and

transmitting storage changes to said remote storage subsystem.

18. The method of claim 17, wherein said storage changes are substitutable for database changes.

19.   A method of automatically extending a storage systems hardware mirroring function, comprising:

mapping volumes received from a particular local storage system corresponding to physical LUNs, said physical LUNs being mirrored to a remote storage subsystem;

evaluating remote mirror LUNs based on at least one of size, type, performance and reliability to find a suitable LUN;

creating a suitable remote mirror LUN if a suitable LUN is not found; and

creating a suitable target and mirroring a volume if a volume is to be added.

20.   The method of claim 19 wherein said mapping further includes querying the state of the mirroring to determine a proper configuration for an application.

21.   The method of claim 19, wherein said evaluating determines a proper modification at said remote storage subsystem that includes invoking procedures to mirror at least one new volume and assigning the at least one new volume to said remote storage subsystem.

22.   The method of claim 21, wherein said modification further includes adding at least one new volume to an operating logical volume, updating a remote storage subsystem and invoking procedures to mirror said at least one new volume.

23. A computer configured for coupling to a data storage system comprising:

means for discovering a first storage configuration and database layout of the data storage system;

means for mapping said first storage configuration and database layout creating at least one first storage subsystem volume;

means for receiving information concerning a second storage subsystem;

means for polling said first storage subsystem volume and a relational database management system (RDBMS);

means for comparing current information from said first storage subsystem volume to the received information; and

means for transmitting storage changes to said second storage subsystem.

24. A computer configured for coupling to a first data storage system comprising:

means for mapping volumes received from a first data storage system corresponding to physical LUNs, said physical LUNs being mirrored in a second storage subsystem;

means for evaluating the mirrored LUNs in the second storage subsystem based on at least one of size, type, performance and reliability to find a suitable LUN;

means for creating a suitable mirror LUN in the second storage subsystem if a suitable LUN is not found in the second storage subsystem; and

means for creating a suitable target in the second storage subsystem and mirroring a volume in the second storage subsystem if a volume is to be added.